

## A B S T R A C T

A BUOYANCY DEVICE AND A METHOD FOR STABILIZING AND  
CONTROLLING THE LOWERING OR RAISING OF A STRUCTURE  
5 BETWEEN THE SURFACE AND THE BED OF THE SEA

The present invention relates to the use of a  
buoyancy fluid presenting density that is less than that  
of sea water, and that is confined in a rigid or flexible  
10 leaktight casing (4<sub>1</sub>, 19<sub>1</sub>), so as to constitute an  
immersed buoyancy element (4, 19), said use being  
characterized in that said buoyancy fluid is a compound  
that is naturally in the gaseous state at ambient  
atmospheric temperature and pressure, and in the liquid  
15 state at the underwater depth to which said buoyancy  
element is immersed. The present invention also relates  
to a method of putting a buoyancy element into place  
between the surface and the bed of the sea, said method  
being characterized in that said fluid is stored in a  
20 tank on a surface ship (61) as a liquid in the cooled or  
compressed liquid state, and it is injected in the liquid  
state into a pipe (23) from the surface (61) where it is  
stored to a said immersed casing (4<sub>1</sub>, 19<sub>1</sub>) at an  
underwater depth at which the underwater pressure is not  
25 greater than the vapor pressure of the gas corresponding  
to said compound at the temperature at said depth.

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Translation of the title and the abstract as they were when originally filed by the  
35 Applicant. No account has been taken of any changes that may have been made  
subsequently by the PCT Authorities acting ex officio, e.g. under PCT Rules 37.2,  
38.2, and/or 48.3.